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Home extensions in the United Kingdom: space, time, and practice

Martin Hand
Department of Sociology, Queen's University, Kingston, ON K7L 3N6, Canada;
e-mail: handm@post.queensu.ca

Elizabeth Shove
Department of Sociology, Cartmel College, Lancaster University, Lancaster LA1 4YL, England;
e-mail: e.shove@lancaster.ac.uk

Dale Southerton¶
ESRC Centre for Research on Innovation and Competition, The University of Manchester, Harold Hankins Building, Booth Street West, Manchester M13 9QH, England;
e-mail: Dale.Southerton@man.ac.uk
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Abstract. This paper begins with two observations: that UK homes appear to have accumulated increasing numbers of domestic technologies, yet new houses are smaller, on average, than those built before 1980. The spatial pressures placed on homes that result from the accumulation of technologies are explored by drawing upon forty household interviews which enquired into the domestic organisation of kitchen and bathroom technologies and practices. Many households have responded to such spatial pressures by extending or reformulating their domestic spaces: such that kitchens are becoming increasingly multifunctional spaces and bathrooms are multiplying. It is argued that these trends are not simply driven by an unstoppable tide of material possession but reflect context-specific arrangements related to the temporal and ideological structuring of domestic practices. Technologies and practices coevolve with the result that new demands are made on homes—the commodities and objects with which we live our lives influence our *experience* of space and the value placed on different physical configurations. Domestic technologies are therefore implicated in the structure and reproduction of practice and hence in the choreography of things and people in time and space.

Introduction

Many have written about the relationship between rubbish and consumption. As authors such as O'Brien (1999), Strasser (1999), and Thompson (1979) point out, the production of waste is an inevitable by-product of contemporary consumer society. More generally, the flow of material through social and commercial networks is a subject of increasing academic interest (Gregson and Crewe, 2003). Less has been said about the stage before the results of mass production are discarded and disposed of. What is it like to live with a profusion of appliances, commodities, and material goods? In the United Kingdom today, more people appear to have more things in their home than ever before. New services have developed to cope with this flow of stuff: organisations announce themselves as 'clutter consultants', and 'self-storage' is a growth area. It is now possible to pay others to organise, manage, and store your personal possessions. More commonly, households struggle to accommodate new appliances, new types of computer technology, and new objects within the home.

The home as a site of domestic production and consumption is a well-rehearsed argument. Yet, few empirical accounts address the accumulation of consumer goods within domestic spaces. Smith (2004) notes that housing studies, and urban geography more generally, has overlooked the relationships between materiality, subjectivity,

¶ Corresponding author.

and social practices that shape what she calls 'living rooms'. Smith (2004, page 89) highlights how the layout, fabric, and contents of homes are entangled in varieties of "mundane and imaginative ways" as people engage in "myriad acts of consumption and exchange", and do so "within ageing if periodically renewed stocks of housing".

In this paper we examine contemporary bottlenecks and pinch points of domestic space by exploring various forms of housing renewal as undertaken by forty UK households. We focus in particular on the relation between the accumulation of consumer goods and the social, temporal, and spatial fabric of daily life. We do so with a view to understanding better the materiality of social practice; the relation between dynamic but also resilient routines and the hardware of the home; and how households accommodate shifting visions and expectations of home and daily life within domestic spaces.

We begin by noticing contradictory trends in space standards. Where they can afford it, households in the private sector "opt for larger living space" [*The English Housing Conditions Survey* (EHCS) 2001]. Despite demand for more room, new homes are shrinking. Those built before 1980 offer on average 88 m^2 compared with 83 m^2 for those built since then (EHCS, 2001). Although averages are important, the way in which space is distributed is also critical. Picking up this theme, West and Emmitt (2004, page 276) analysed six contemporary house types and compared them with the Parker Morris standards of 1961. These authors argue that design guidance produced in 1968 (MHLG, 1968)

> "gives useful information regarding common and maximum sizes of furniture and white goods including the space needed for their comfortable use. These ergonomic data remain largely relevant today, despite changes in technology (for example, radiograms have been superceded by CD players) and habits (for example, bed making, now simplified by continental quilts). These changes are relatively minor and can safely be ignored in determining appropriate room sizes."

Assuming that the ergonomics of daily life is essentially unchanged (a point to which we return), West and Emmitt check how well modern house designs meet these basic requirements. Their results suggest that developers are tending to provide more cellular structures, packing in small bedrooms and bathrooms, and arguably reducing the functionality and flexibility of the dwelling as a whole. These strategies create distinctive spatial challenges for those who inhabit new homes.

Everyday life goes on within an enormous variety of physical environments ranging from one-bed flats through to extensive mansions. In reality, most people live in older houses designed and built around ideals and practices unlike those that dominate today (compared with other European countries the UK housing stock is distinctive in the duration of a typical dwelling). That said, we can discern a number of general trends regarding the challenges of meeting contemporary expectations of domestic space in an ageing housing stock. It is, for instance, clear that kitchens are increasingly used as living spaces, that the number of bathrooms is rising, that the dining room is in decline, and that, everywhere, storage is at a premium.

The EHCS (2001) reports that 41% of the United Kingdom's housing stock has had at least one major alteration since being built. This is particularly the case for houses built before 1919 (which represent 21% of the total 21.1 million dwellings in the United Kingdom); 80% of which have had at least one major alteration and 25% of which have been altered three times or more. The most common alterations are the rearrangement of internal space (16% of the total UK housing stock), extension for amenity (15% of the housing stock), and extension for living space (14% of the housing stock). In the UK context, innovations in housing-related financial products (especially mortgages) and rising house values have helped to facilitate such home alterations.

More immediately, there is some evidence that small-scale spatial reorganisation is increasing. According to the 2003 Mintel report on DIY, arrival of "electronic equipment prompts the need for DIY to rearrange space for the technological age (especially in small houses). As well as the cosmetics of decorating, the functionality of storage is a big driver for the market. The potential for storage products has increased dramatically in the last few years extending way beyond the simple erection of a shelf" (Mintel, 2003).

Explanations as to why material goods appear to be accumulating within homes can, to some extent, be found in the sociology of consumption. McCracken (1990), for example, highlights the 'Diderot effect', a process whereby the acquisition of new goods renders existing possessions 'out of date', and disrupts the symbolic unity of any given space. To maintain symbolic unity other objects in that space must be added or existing objects updated. In other accounts, symbolic consumption acts as a mechanism of social comparison, with groups competing over the legitimacy of taste and, in the process, volumes of consumption increase. Sullivan and Gershuny (2004) discuss how material goods act as props for 'imagined futures': futures where batches of home-baked cooking, camping trips with children, and elaborate dinner parties will be realised. Finally, Hochschild (1997) and O'Malley (1992) highlight how the rationalisation of domestic labour, a response to temporal challenges faced by dual-income households, has made possession of domestic technologies essential for the resequencing and fragmentation of 'time'-oriented, rather than 'task'-oriented, domestic organisation.

Such accounts indicate generic processes that underpin the accumulation and turnover of material possessions. However, little attention is paid to the way in which changing expectations and visions of domestic practices relate to the accumulation of material goods, and how together they (re)configure domestic spaces. We suggest that accumulation is not only the outcome of generic processes of consumption and that trends of domestic spatial reorganisation are not simply driven by an unstoppable tide of material possession. Rather, they are the consequence of local, context-specific arrangements that reflect and relate to the temporal and ideological structuring of domestic practice. In other words, what matters is how people organise and appropriate the hardware of contemporary life. The experience of congestion and the sense that it constitutes a problem relate to the flow of people and things through time as well as to issues of volume, quantity, and physical location. They also have to do with the relation between material artefacts and what people take to be normal, perhaps even necessary, actions and practices.

Acquisition and changing domestic spaces

Strategies for acquiring and managing 'stuff' are multiply revealing. As well as demonstrating the construction of 'need' (for example, the need for new appliances such as dishwashers, fridge freezers, etc), they illuminate the coevolution of technology and practice. People cope with the spatial and temporal challenges of adapting to new ideals and to changes in the life course in different ways. Some fit valued social arrangements and routines into existing spaces while others conclude that they simply *need* more room. We review the responses and explanations provided by members of households that have physically extended their homes. Opportunities to extend are very unevenly distributed, being denied to those living in city-centre flats and to those who lack the space or the means to build. Motivations to extend—rather than to move to a larger house—are also varied. In some cases, extending represents the cheapest way of acquiring more space. In other cases, it is a comparatively costly option but one that allows people to keep the same neighbours, friends, and schools. Whatever the context,

rationales for extending provide important insight into the details and experiences of spatial pressure.

Forty households were interviewed. The sample was designed to include people living in traditional terraced housing (twelve households), in interwar semidetached homes (fifteen households), and in newly built houses (thirteen households) in York, England. In-depth, semistructured, and conversational interviews were conducted, during the course of which respondents discussed changes they had made to their house and to the domestic organisation of their kitchen and bathroom(s). Fifteen of the forty households were couples living with dependent children, seventeen were couples without dependent children at home, and eight were single-person households. Five interviews were conducted with men, nineteen with women, and sixteen with couples. Women are, therefore, disproportionately represented in the sample, although when we included couples twenty-one men were interviewed. All respondents were white, and ages ranged from 24 to 80 years; and no age group was disproportionately represented in the sample or in each household type. Those living in semidetached homes had done so for an average of twenty years (length of residency ranged between 1 and 43 years), in terraced homes they had lived there for an average of fifteen years (residency range 1 and 59 years), and in modern homes they had lived there for an average of seven years (residency ranged between 1 and 17 years). Interviews lasted, on average, one hour, were fully transcribed, and were analysed using the software package ATLAS.ti.

The analysis focused primarily on the social organisation of domestic practices. Reckwitz defines practice as "a routinised type of behaviour which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how states of emotion and motivational knowledge" (2002, page 249). From this perspective, "consumption occurs as items are appropriated in the course of engaging in particular practices" (Warde, 2005, page 131); new kitchens and kitchen equipment are acquired in order to accomplish kitchen-based practices. Although changing practices 'demand' material goods—shifting practices of food provisioning and consumption make technologies such as freezers 'necessary' (Shove and Southerton, 2000)—configurations of hardware also permit and prevent different courses of action (Woolgar, 1991). Practices and material goods are, therefore, mutually constituted. A final, and critical, aspect of practice is the notion of competent performance: being a competent practitioner requires not only the requisite goods and services but also a grasp of the shifting norms that shape understandings of that practice.

Those interviewed for this research reflected on the practices that took place within their kitchens and bathrooms, and expressed their visions of the kind of practices that they hoped to facilitate when changing these spaces and the hardware located within. Consequently, interview respondents revealed their accounts, interpretations, and expectations surrounding practices associated with kitchens and bathrooms. The material presented here focuses on the experiences of those who had extended or significantly remodeled their home, and data are presented from respondents who best, or most succinctly, illustrated the processes revealed across interviews. Table 1 shows the types of changes initiated by the households studied.

Almost all the terrace houses included in our study were 'two up, two down' dwellings (these are common in the north of England, although less widespread in the south) and almost all had already been extended into the backyard to provide a toilet and bathroom. Some of the new-build houses had gardens, but these were typically smaller than those of the interwar semis. Given that most respondents living in interwar semidetached homes had been doing so for a longer period than people

Table 1. Spatial reformation of respondents' homes.

	Type of house			
	terrace	semi	new-build	total
Extended by previous resident	4	2	1	7
Ground-floor extension by respondent	0	6	4	10
1st floor extension or loft conversion by respondent	0	4	1	5
Internal rearrangement by respondent	2	7	4	13
Garage conversion by respondent	0	5	1	6
Refit kitchen	6	12	3	21
Refit bathroom	1	4	1	6
Add bathroom or WC	2	4	1	7

Note: refitting a kitchen in a new ground-floor extension would figure twice in this table: (a) as a ground-floor extension; and (b) as a kitchen refit.

living in either of the other housing types, it was not surprising that they had done the most extending and rearranging.

Why do people extend their homes? The simplest and most common response is that they need more space. Often, this is more space in order to accommodate the accumulation of new appliances such as a fridge freezer or tumble dryer, a new or additional shower, or downstairs cloakroom. As we explain below, the diffusion of household appliances each occupying some 600mm square has practical consequences for the design and organisation of the home. Although it is experienced individually, the pressure to extend, we argue, is essentially social: it has to do with accomplishing and achieving what people take to be normal ways of life and normal forms of social interaction. As will become clear, the kitchen was one focus of attention. For example, ground-floor extensions and garage conversions were often designed to provide more room in the kitchen or to accommodate kitchen-related appliances. The bathroom was another focus of attention. In this case, people reported subdividing bedrooms to form additional bathrooms or modifying space downstairs to create an extra toilet and/or shower room.

Although both are associated with demand for more space, the kitchen and the bathroom are sites of significantly different sorts of pressure. The general trend, confirmed by our respondents and by kitchen and bathroom designers and companies providing kitchen and bathroom fittings, is that the kitchen is becoming an increasingly multifunctional living space. Meanwhile, the bathroom is multiplying as people build additional en-suite facilities and extra showers and toilets. The role and significance of the kitchen and the bathroom change during the life course and, as our interviews demonstrate, experiences of 'filling up' and 'spilling out' have to do with the intersection of space, time, routine, and injunction—not with square metres alone. In what follows we explore these processes, beginning with a discussion of kitchen-related pressure to extend.

Changing rooms 1: the kitchen

Much has been written about kitchens. For example, Corrigan (1997) and Miller (1988) discuss the kitchen as a space of identity and self-expression. Madigan and Munro (1996) and Southerton (2001) highlight how the ordering of these domestic spaces relates to valued cultural standards and orientations, such as group-based interpretations of respectability. Design historians including Cieraad (2002), Freeman (2004), and Sparke (1995) chart the emergence of the modern housewife by following the

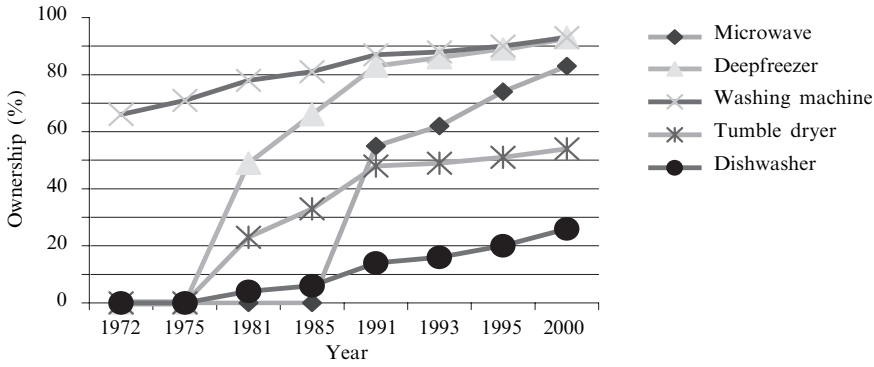

Figure 1. Percentage household ownership of large domestic appliances between 1972 and 2000 (source: *General Household Survey* 2001).

shifting furniture, floor plans, and appliance designs of the kitchen. There is no doubt that the range of what people take to be normal and necessary kitchen appliances has increased over the last thirty years or so. Figure 1 illustrates trends in the ownership of relatively sizeable technologies, each of which has practical consequences for the use of space.

During the last thirty years a number of previously bulky items have been miniaturised and replaced. Things such as central-heating boilers now take up less room than ever before and other space-hungry arrangements such as a walk-in larder have been rendered redundant by the arrival of the fridge freezer and by changing habits of cooking, storage, and eating. At the same time, the diffusion of numerous specialised gadgets increases the demand for storage. Figure 2 illustrates the number of households owning a selection of small kitchen appliances in 2000. These statistics (figures 1 and 2) record household ownership and therefore highlight the increased volume of both large and small domestic technologies that accumulate within UK homes, and ignore the turnover of appliances that result from households replacing or acquiring additional freezers.

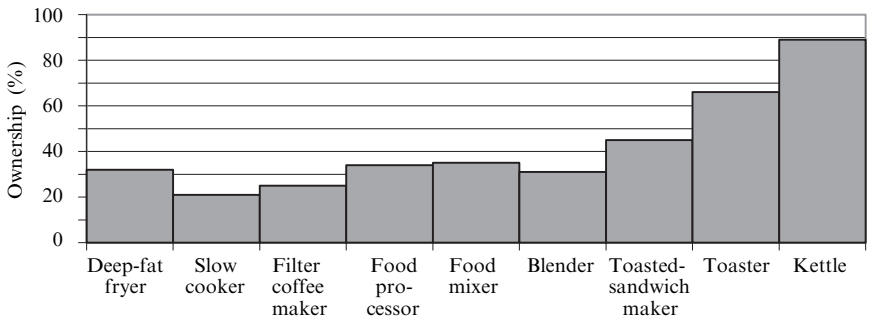

Figure 2. Percentage household ownership of small kitchen appliances in 2000 (source: Keynote, 2003).

Sure enough, individual respondents acknowledge and refer to the problems of accommodating this kind of equipment. In describing why it was necessary to double the size of the kitchen, Hilary describes what these trends feel like firsthand:

> "we've doubled the size of the kitchen ... it wasn't big enough. I enjoy cooking. I spend a lot of time in the kitchen .... It had a free-standing cooker and it did have the washing machine in the kitchen at that point ... we put in some fitted appliances as well as all the new units. Initially the washing machine was still in the kitchen

but after a couple of years I decided that a dishwasher would be beneficial. So we put the dishwasher into the washing machine's place in the kitchen and moved the washer into the garage" (Hilary, aged 40, interwar semi).

In Hilary's case, as in others, the arrival of the dishwasher puts pressure on the system as a whole (just under half of our households had a dishwasher). Most commonly, the washing machine has to go somewhere else and this sets in train a series of further adjustments. Part of Angela's garage has been given over to a utility room designed to house appliances ousted from the kitchen:

"we were going to change the garage into the kitchen/dining room area ... but decided that we would just re-hash the kitchen and put a partition wall into the garage, have a utility room and a dining room ... . In the kitchen we just fancied new units and a slightly different layout to what it was so we've got a dishwasher in there and this way we got a big freezer, washing machine, and dryer in the utility room" (Angela, aged 31, new-build).

Six of the thirteen new-build houses in our sample had utility rooms specifically designed to accommodate a washing machine and its increasingly common companion, the tumble dryer. As we have already seen, those living in interwar semidetached homes sometimes had scope to create a utility room by taking space from the garage, building a new room, or converting a larder. Laura and Ben have opted for the latter arrangement.

"There is a utility room off the kitchen, which takes all the big white goods you see ... I have got my washing machine with my tumble dryer on top and my fridge freezer next door to it ... . But I altered it [the utility room] because they had a wall cupboard in there and I've taken that out to accommodate the fridge freezer you see" (Laura and Ben, aged 60, interwar semi).

Accounts of this kind point to a number of interlocking trends in which freezers take the place of larders, and dishwashers displace washing machines from the kitchen and increase demand for a dedicated utility room. Where possible, functions previously based in the kitchen are being moved out. Where this is not possible, the kitchen simply fills with functions. As respondents living in the small terrace houses described, their homes are too small to accommodate more than a couple of people and the requisite set of appliances. One consequence is that the 'need' for a washing machine and a freezer (at a minimum) has changed the demography of an entire area. What used to be family homes have become temporary staging posts occupied by single people and couples, many of whom expect to move again to get more space:

"we're never intending to stay here for a massive amount of time ... I don't think you can do a lot more 'cause of the size of it ... it's not worth spending that kind of money on this house" (Linda, aged 24, terrace).

Having filled their own kitchen with appliances, respondents living in terraces and in small new-build homes often aspired to more. They wanted a fully equipped kitchen in which there was also room to eat and talk together and in which they could move around. Michelle sets out just such a vision:

"I'd like somewhere to be able to sit and eat in the kitchen ... even if it was like a breakfast bar or something like that, that would be ideal. I think a more socializing room, chatting while you are doing things in the kitchen because often one of us will be in the kitchen and one of us will be in here [the lounge] say with Jake [her son] or whatever ... . And I think from a social point of view I'd prefer having a table in the kitchen, being able to sit and chat with a coffee or whatever" (Michelle, aged 31, new-build).

As this extract indicates, the ideal kitchen is one populated by a selection of necessary appliances *and* by other people. By implication, the kitchen is not (simply) a place of

work and not only a 'back region' in which food is prepared. In the words of a 2002 Magnet advertisement, it is "somewhere you want to spend time, where you feel comfortable, where you can simply live your life" (*Good Housekeeping* January 2002, page 2). This is a spatially demanding and not especially novel ideal (Gullestad, 1984), but is one to which nearly all our respondents subscribed. Jane was not alone in noticing that:

"the kitchen's the one place where you talk to each other, when you're cooking or doing the pots" (Jane, aged 40, terrace).

Visions of kitchen-based sociality were, in every household, associated with a specific and simple piece of kitchen technology: the table. If the kitchen table is to fulfil its anticipated social function, people have to be able to sit around it—an arrangement that requires a considerable amount of space in its own right. Elaine had to double the size of her kitchen to achieve this effect. As she explains,

"we had the extension ... the garage with the kitchen extension behind. That doubled the kitchen ... we wanted to have a table and eat in there" (Elaine, aged 53, interwar semi).

Twenty six of the forty households had perfectly good dining rooms already equipped with perfectly satisfactory tables around which family and friends could gather. Perhaps indicative of 'informalisation', a process where established rules and conventions have become deregulated and in which informal guidelines for the appropriate conduct of practices prevail (Wouters, 1986), the existence of a table in the dining room was not enough. For the best results the table has to be in the right place—and that now seems to be in the kitchen rather than in the dining room.

"I'd really like a bigger kitchen, where there was clearly a room for a table and chairs without it sort of hinging on other kitchen issues really ... plenty of room to have a really good sort of working kitchen ... an eating area at the other end ... for family meals it isn't quite so stuffy as having to go into the dining room which always seems to be quite formal you know" (Suzanne, aged 39, interwar semi).

To summarise, the ebb and flow of technology are important in understanding developments within the kitchen, but this is not all that is at stake (Freeman, 2004). The kitchen has rid itself of certain functions and appliances (such as those associated with the laundry) and acquired others (specifically the dishwasher and the fridge freezer, along with a host of smaller gadgets), and the more important development is the *idea* that the kitchen constitutes the symbolic heart of the home. If kitchens are to live up to this ideal, they have to contain a table, chairs, and room in which to move around. Kitchen extensions are not only about making space for consumer goods, but also about accommodating particular visions and images of domestic life.

Changing rooms 2: the bathroom

The bathroom business is booming but for very different reasons. In this case the issue is not one of having more space but one of having multiple copies of similar facilities (for example, shower, toilet, and/or bath) within the same home. It is increasingly common for new homes to be equipped with one bathroom per bedroom and there is pressure on the existing stock to 'catch up' with these 'standards' of provision.

Our respondents invoked one or more of three somewhat different arguments when explaining why they had extended or remodelled their homes to provide more baths, showers, and toilets. One had to do with the daily schedule and the rush to 'get ready' in the morning, a practice that now routinely involves showering. Suzanne modified her house in anticipation of this 'rush' and June and Bob installed additional toilets in order to reduce levels of domestic aggravation.

"So we [made] it a shower room, we couldn't fit a bath in it; we just have a shower cubicle, toilet and a basin and then as the girls get older we're not all squabbling over one shower in the morning or in the evening" (Suzanne, aged 39, interwar semi).

"With us having a separate toilet half of the aggro with the kids is gone. With having two separate toilets it disappears even more" (Bob, aged 51, interwar semi).

Another related rationale had to do with the sometimes sensitive problem of sharing with strangers. The practice of having people to stay for a weekend puts a particular kind of strain on domestic infrastructure. Several respondents were keen to combine provision with privacy such that guests have facilities they can think of and use as 'their own'. Karen has moved from a two-bathroomed to a one-bathroomed house and she notices the difference:

"in this house, well we've got the downstairs toilet, but only the one bathroom, that sometimes is a nuisance when you've got people staying and you're crossing on the stairs and queuing for the bathroom. So that's what I liked it for, 'cause we have a lot of visitors" (Karen, aged 39, terrace).

Suzanne has provided an extra bathroom for guests and visitors. As she explains, an additional toilet has also helped in distinguishing between the public and private areas of her home:

"We have quite a lot of friends to visit us, some of our friends don't live in the area and come for a weekend so it makes that a whole lot easier that you haven't got two families trying to use one bathroom all at the same time... .We weren't going to bother with a downstairs toilet, we thought two was plenty and we discussed our drawings with various friends who'd sort of previously gone through the process or moved or whatever and they said 'oh you must put a downstairs toilet'. It makes life so much easier 'cause you haven't got people trailing up and down especially when we've got other children round playing they don't have to go upstairs or you know there's somebody here, who you don't perhaps know particularly well, who need the loo they don't have to go upstairs where all the bedrooms are" (Suzanne, aged 39, interwar semi).

Others picked up on the trend to have multiple facilities and concluded that the value this would add to their home outweighed the immediate cost and disruption to the household while building work was being conducted. Lisa and Andrew figured that it would make sense to fit an extra shower into a small space that had no other obvious use:

"I don't suppose we really needed a second bathroom but it was really just the obvious thing to do with the room really... .Andrew wanted a shower so we've got a separate shower cubicle, a bath, sink and toilet" (Lisa, aged 32, new-build).

Interest in building more bathrooms seems to revolve around changing expectations of personal hygiene and around the diffusion of the shower. An expectation of daily showering, as opposed to more infrequent bathing, puts greater pressure on the spatial and temporal sequencing of morning and evening routines (Shove, 2003). Not everyone has (or can have) visitors to stay, but further adaptations are required if homes are to function also as convenient and effective guest houses. Wilhite and Lutzenhiser (1998) write about the social importance of catering for rare moments of 'peak loading'—for example, when guests come to stay or when dozens are invited to Christmas dinner. The examples cited above show that patterns of congestion and peak load vary over the life course. They also demonstrate the delicate relation between space, time, synchronisation, and sequence.

Multiplication and multifunction: time, space, and practice

The multiplication of bathrooms is explained with reference to new challenges of managing individual and collective routines within specific spaces and times. Additional showers and toilets help to reduce certain types of household congestion including that generated by contemporary conventions of personal hygiene. By contrast, spatial reformations of the kitchen have to do with multifunctionality and with the expectation that kitchens should be places of work, sociability, and private relaxation. So far we have assumed that new physical arrangements are introduced in order to cope with changing expectations and routines.

This is to underestimate the relation between the material, spatial, and temporal organisation of the home. As we have already observed, homes are filling up with 'stuff'. This has obvious consequences for space and storage. However, this stuff is not inert. Owning domestic appliances and acquiring facilities such as extra showers and toilets make a difference to what people *do* in their homes and to how, when, and where they spend their time. We, therefore, need to pay attention to the ways in which kitchen tables, showers, and the full range of large and small domestic appliances are actively 'domesticated' and used if we are to understand the restructuring of space, time, and practice.

Scholars from science and technology studies have written about the relation between people and the 'nonhuman' actants with whom they share their lives (Akrich, 1992). From this we draw the simple observation that technologies frequently configure practices. We also notice that expectations and interpretations of need coevolve with the materials on which their realisation depends. Karen's relationship with her freezer illustrates this point. If it is to be used 'efficiently', the freezer 'demands' a particular approach to cooking and eating (Shove and Southerton, 2000). If Karen is to live up to these requirements she will have to change her ways:

> "she's [Karen's mother] surprised at me now as I don't take advantage of the freezer, I don't have it filled to the brim really... she would often make pies and then she would freeze... I'm trying to think that maybe this could save me time and I should think about this... you know, we've got it, let's try and incorporate it into our daily lives" (Karen, aged 39, terrace).

At the time of the interview Karen was thinking about moving her kitchen table to create more space for concerted cooking sessions in which she could produce batches of food for the freezer. Although this would make good use of the freezer, the family would have to eat in the currently underutilised dining room. This example illustrates a sequence of spatial and practical adjustment set in train by the arrival of a new appliance. The first step was to make room for the freezer. However, if it was to be used 'properly', other changes would be required: the table would have to go, the dining room would have to be brought back into use, Karen's pattern of shopping, cooking, and eating would all have to change. It also demonstrates how ideas regarding what constitutes competent practice are not static. In this case, Karen is in the process of renegotiating what constitutes competent domestic organisation of food provisioning; and, in doing so, she employs the example of her mother to illustrate the normative practices that she interprets to be associated with that appliance. This is not a trivial matter: spatial and practical adjustments to the home and to daily practices together with the renegotiation of competence were clearly a source of some anxiety for Karen.

Although changes in any one aspect of daily life are likely to have consequences for the spatial and temporal organisation of others, it is important to recognise that routines can also be resilient. In this next example, Elaine built an extension so that the children could have 'their own' shower. In the event, they stuck to their old ways and continued using the 'main' bathroom:

"the strange thing was that when we had the extension built and they both [her children], they each had a room in the extension, there was a shower in the middle, the obvious place for them to use … but they weren't used to it, that's how they'd grown up, to use the bath … it didn't work out quite like it would, it was used, but not in the way you would have envisaged" (Elaine, aged 53, interwar semi).

How new technologies or facilities are (or are not) used has to do with the routines, habits, and sets of expectations into which they are incorporated (Southerton, 2001; Vanek, 1978). Households have what Silverstone (1993) refers to as different orientations and different understandings of what the competent performance of domestic life involves. These understandings vary between social groups and change through the life course. For instance, the sorts of things that go on in the home and the kinds of priorities and injunctions associated with them differ between those people who have or who are expecting children, those whose children have left home, and those who live alone or with a partner. Moments of spatial and temporal pressure come and go, as does the willingness to accept disruption and change.

Just as important, people use the same spaces (kitchen, bathroom, dining room, etc) and technologies in different ways at different points in their lives. Since retirement, Arthur has been able to indulge his passion for cooking and for travelling around to source the best ingredients. This has generated significant upheaval in the organisation of both the kitchen and the garage. The kitchen now contains a fridge freezer, a microwave, an oven, and a washing machine. Other appliances, including another fridge, a freezer, a bread maker, a gas oven, and some stand-alone units have spilled out into what used to be the garage. This complex sociotechnical system is held in place by new routines developed in retirement:

"I used to do some [cooking] and it's just grown really now that I have more time. I like doing it and I find it a good adventure... .We do coffee about this time [11 am] and if it's decent we'll sit in the garden. I mostly pre-prep food, I'll cook lunch, make a meal ... she'll have a cup of tea and then I'll cook about two o'clock in the afternoon to eat at six in the evening" (Arthur, aged 68, interwar semi).

Younger respondents talked about how life events such as the birth of a new baby or the departure of grown-up children changed their relation to the spatial and technological structure of the home. The arrival of Michelle's son was the catalyst for a complete kitchen overhaul:

"We had a fridge-freezer so the fridge actually was in the garage ... our fridge freezer wouldn't fit in to the kitchen so we had a freezer in there... .The hob was fairly old and needed changing really, the oven we had to change because it packed in anyway so we changed it, so there were sort of ... with Jake coming along we wanted a fridge in the kitchen it's just easier" (Michelle, aged 31, new-build).

As these examples illustrate, changing circumstances also change the use value of specific appliances and of the space in which they are located, and lead to the questioning and renegotiation of what constitutes the competent performance of practices. By implication, the relation between space, technology, and practice is never static. In addition, levels of interpersonal and interpractice dependence are such that the home is indeed a restless place: pressure points of space and time are always on the move.

Conclusion

We began by noticing the sheer accumulation of stuff, arguing that this in itself might explain the increasing demand for space. Further reflection and analysis show that new technologies and goods are acquired as part of, and in the course of, accomplishing what people take to be normal, ordinary, and acceptable ways of life. Consumer goods

and technologies might prompt the reorganisation of domestic practice, but the key point is that they are acquired, appropriated, and effectively subsumed within concerns as broad as those of producing a comfortable home and as specific as those of preventing children muddying the carpet on route to the upstairs toilet. Interpretations of exactly what appropriate ways of life involve (and what material goods are required in support) vary widely, but the point remains: it is the relation between hardware and practice that counts, not the hardware alone.

The accounts and explanations provided above are the product of often quite idiosyncratic combinations of orientation, aspiration, and material circumstance. That said, they have a number of features in common. How are we to explain seemingly generic trends in the multiplication of the bathroom and in the multifunctionality and consequent demand for space whether materialised in the form of an extension or not?

One explanation is that people are subscribing to increasingly standardised visions of domestic order. The idea that families should eat together in the *kitchen* and the expectation that everyone will shower once or perhaps twice a day have obvious practical consequences for patterns of spatial and temporal organisation within families whose social and material circumstances differ widely.

Another related possibility is that the diffusion and ownership of increasingly standardised appliances have the unintended and unexplored effect of scripting and thereby standardising the routines and habits of those who use them. In other words, people extend their homes in order to accommodate additional appliances and—more importantly—in order to accommodate practices inscribed in technologies such as those of the kitchen table, the freezer, or the extra shower.

This brings us to a more fundamental question. Why have individual households filled their homes with so many domestic appliances? The cumulative spatial consequences are impressive. To give just one example, over the last thirty years the diffusion of approximately 10 million tumble dryers has tied up some 3.6 million m^2 of domestic space. What is going on? One answer has to do with the social and economic organisation of domestic labour. As historians such as Cieraad (2002), Parr (1999), and Strasser (1982) observe, the loss of the domestic servant was extremely important for the design and layout of middle-class homes and for the kitchen in particular. It was also important for the development and promotion of 'labour-saving' devices. Whether such appliances ultimately create 'more work for mother' (Cowan, 1983) or not, there is no doubt that households have been buying tools and devices with which to deliver 'in-house' services (Gershuny, 1978).

However, the point is that things are routinely acquired and accommodated in support of a broad vision of how life should be. In this paper we have sought to show how idiosyncratic solutions and strategies draw upon (and reproduce) remarkably similar aspirations. Focusing upon the experiences of people who have built extensions, we concentrated on the twin injunctions of (a) eating together and (b) regular private showering. We have shown what these ambitions mean for the use and experience of space within the home. In the process, we have underlined the point that artefacts such as kitchen tables, showers, tumble dryers, fridge freezers, and even microwave ovens structure spatial and temporal rhythms in more ways than one. Minimally, they have to be located somewhere within a home that is already 'full'. Equally important, they are implicated in the configuration and reconfiguration of practice. They make a difference to what people do and to when, where, and how the doings of daily life take place. Accordingly, there is a sense in which the ergonomic 'requirements' of everyday life are anything but stable. As we have shown, the sociotechnical coevolution of hardware and routine is of consequence for the spatial and

temporal 'envelope' of specific practices, and for the spatial and temporal burden of often taken-for-granted and normative interpretations of what constitutes a competent performance of domestic practices.

In conclusion, we suggest that technologies and practices coevolve with the result that new demands are made of the homes in which we live. Although people can and do cope by remodelling their kitchens and bathrooms and although some are able to extend their homes, many more have to adapt, fitting new ways of living into dwellings constructed around other images and ideals and designed with other technologies and appliances in mind. In Britain the average new home is smaller than it was twenty years ago: in the USA it has increased (in floor area) by 50% since 1970 (Fox, 2005). If we look ahead, it is easy to see that demographic factors, government policies, and the economics of land value and land availability will make a difference to the size and layout of new homes. In this paper we have explored the somewhat less obvious point that the commodities and objects with which we live our lives influence our *experience* of space and the value placed on different physical configurations. This is not simply because things take up room. The more important point, and the central theme of this paper, is that domestic technologies are implicated in the structure and reproduction of practice and hence in the choreography of things and people in time and space.

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